

# **Power BI Engineer Training – DEPI**

## **Tesla Project Brochure**

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## **Project Overview:**

Our project Tesla's electric vehicle performance showcases impressive sales and production trends, with the Model 3 leading as a best-seller. The Model Y is gaining popularity rapidly, while the Model S and Model X maintain niche appeal. Overall revenue growth reflects these trends, although Tesla's stock price has fluctuated significantly, mirroring market sentiment and company performance.

## **Key Models:**

Model S: Luxury electric sedan known for its high performance and long range.

Model 3: Affordable electric vehicle targeted at mass-market consumers; it is Tesla's best-selling model.

Model X: An electric SUV featuring distinctive Falcon Wing doors and luxury elements.

Model Y: A compact SUV that is versatile for families and urban use.

CyberTracker: An upcoming electric truck designed for durability and rugged performance.

## **Data Cleaning Process :**

Sara undertook the data cleaning process to ensure the dataset was accurate and suitable for analysis.

### **The steps included:**

- 1. Removing Duplicates:** Identified and removed any duplicate records to maintain data integrity.
- 2. Handling Missing Values:** Addressed missing data points by using techniques such as imputation, where applicable, or removal of records with excessive missing values.
- 3. Data Type Corrections:** Ensured that each attribute had the correct data type (e.g., dates were in date format, numerical values were not stored as text).
- 4. Standardizing Values:** Standardized categorical values (e.g., car model names, regions) to ensure consistency across the dataset.

## **Data Visualization:**

Once the data was cleaned, I focused on creating a comprehensive Power BI report that includes visualizations to effectively communicate our findings.

### **The steps included:**

**1. Exploratory Data Analysis (EDA):** Conducted preliminary analysis to understand the distribution and relationships of key variables within the dataset.

### **2.Data Modeling**

Relationships Established

DAX Calculations

### **3.Creating Visualizations**

Vehicle Performance\*\*: Utilized bar charts to compare different Tesla models based on performance metrics like range, speed, and customer satisfaction ratings.

**4.Dashboard Design:** Integrated various visualizations into a cohesive dashboard that provides an overview of Tesla's performance metrics immediately. The dashboard is designed to be interactive, allowing users to filter by model, time, and other dimensions.

## 5. Interactivity Features :

**Slicers and Filters:** Allowed users to filter data by year and model, providing detailed insights into specific trends and performance metrics.

**Tooltips:** Enhanced user experience by providing additional context on metrics, such as year-over-year changes.

## Reporting:

The steps that Rana followed to create a report

### Step 1: Define Objectives

Clearly define the purpose of the report. Are you focusing on financial performance, market analysis, technological innovations, or a combination of these? •

### Step 2: Conduct In-depth Research

Gather comprehensive information about Tesla's business operations, financials, product offerings, and market trends. Use reliable sources to ensure accuracy. •

### **Step3: Organize Findings**

Create a structured outline of the report, organizing findings into sections: Introduction, Key Models, Innovations, Environmental Impact, Financial Performance, Challenges, Prospects, and Actionable Steps.

### **Step4: Draft the Report**

Write the report following the outline. Ensure clarity and coherence in presenting your analysis and insights.

### **Step5: Review and Edit**

Proofread the report for grammatical errors, clarity, and consistency. Ensure that all sources are properly cited.

### **Step6: Prepare the Presentation**

Develop a presentation summarizing key points from the report. Use slides to engage the audience and highlight essential insights.

### **Step7: Practice Delivery**

Rehearse your presentation to ensure smooth delivery. Prepare for potential questions and discussions.

### **Step8: Finalize and Submit**

Make final adjustments to both the report and presentation based on feedback or additional insights. Submit the report and prepare for the presentation.

## **Presentation Preparation:**

Rara will prepare a presentation to summarize our findings, focusing on the key insights derived from the visualizations and their implications for Tesla's strategy.

## **Feedback Session:**

We plan to present our report and dashboard to our instructor, incorporating feedback to refine our analysis and presentation further.

## **Conclusion:**

Our project aims to provide actionable insights based on the Tesla dataset through thorough data cleaning, effective reporting, and engaging visualizations. We believe our findings will contribute to a deeper understanding of Tesla's market dynamics and customer preferences